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Dry Link Hose Coupling Assembly

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EMERGING CONSTRUCTION TECHNOLOGIES

Mechanical – Pipe Technologies

DRY LINK HOSE COUPLING ASSEMBLY

THE NEED

Conventional dry-disconnects routinely leak up to 15cc of process fluid after every transfer and require catch buckets and costly cleanups. A dry disconnect is a hose connection device which provides an automatic mechanism to seal off both, the hose and the pipe end, when the hose is disconnected (www.DryLink.com).

The Dry Link System, by Victaulic, solves this problem by implementing a hose coupling assembly with a drip free design. This pipe connection technology is proving to be a highly versatile solution when there is a need to transfer volatile and/or toxic fluids through a series of hoses or pipes.

THE TECHNOLOGY

The Dry Link assembly consists of a coupler and an adapter. When locked together, they form a secure hose connection - with an unique flow shut-off device built in. This device is designed with two identical half disks that are supported by an independent shaft. The disks press together as the coupler and adapter halves are connected. When the handle on the coupler is turned, the discs move simultaneously, acting as a single disc. Also, when the Dry Link assembly is disconnected, the disc again splits into two identical but separate halves. Using innovative sealing technology, no fluid gets between the disc faces when there is a flow in the line. The system comes in sizes from 1 1/2" to 3" (Victaulic 1995).

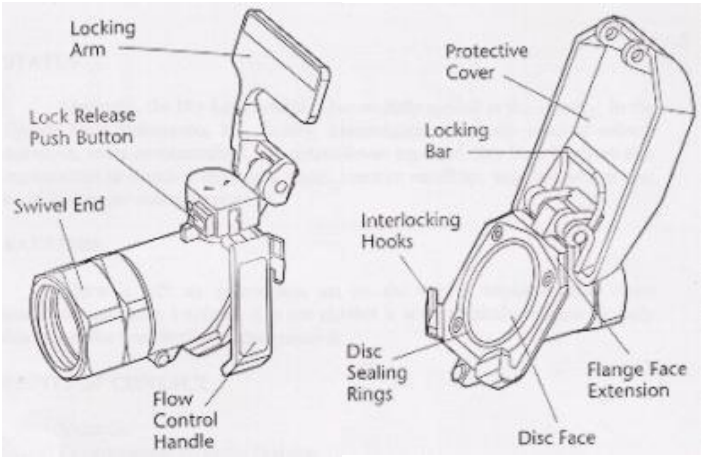

FIGURE 1 PRODUCT DESCRIPTION

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The Benefits

The benefits from implementing the Dry Link system are:

- Elimination of spills: Not only does the Dry Link securely seal process fluids within the line. It also provides for a unique mechanical interlock that prevents the connection from opening unless the discs are closed and sealed. This presents a big advantage over other disconnects in that worker safety is enhanced (when dealing with toxic, combustible, or volatile fluids), the environment is conserved, and product loss is minimized (when dealing with expensive fluids).
- Better flow: The smooth bore, simple configuration of Dry Link coupling assembly results in low pressure drops. This means better flow even for highly viscous fluids (Victaulic 1995).
- Easier and fast operation: The Dry Link assembly is an excellent alternative to heavy, cumbersome, conventional pipe disconnects. In addition, it is up to 50% lighter than comparable products. It also allows fast, easy, and safe fluid transfers.
- Simpler Maintenance: Visual inspection and cleaning of the sealing area in a Dry Link assembly is fast and easy. Seals are readily accessible and simple to replace when necessary (Victaulic 1995).

Status

Currently the Dry Link system is being successfully applied in the industry. In the Upjohn Company's Michigan facility, its implementation effectively reduced solvent emissions, cross contamination, and potential employee exposure. Dry Link has also been implemented in chemical emulsions plants, flow diversion manifolds, tank unloadings, and hazardous waste transport systems.

Barriers

There is still no information available on the overall implementation costs associated with such a system. It is not clear whether it is economically feasible to apply this system for transferring nonhazardous fluids.

Point of Contact

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1. Victaulic: 'Dry Link', 1995.

Reviewers

Peer reviewed as an emerging construction technology

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